

APPLICATION FOR FEDERAL ASSISTANCE SF-424

Version 02

1 Type of Submission:

- ☐ Preapplication
☒ Application
☐ Changed/Corrected Application

2 Type of Application:

- ☐ New
☐ Continuation
☒ Revision

If Revision, select appropriate letter(s)

Increase Award

Other (specify):

3 Date Received

09/15/2010

4 Applicant Identifier:

5a Fed Entity Identifier:

5b Federal Award Identifier:

EE0000112

State Use Only:

6 Date Received by State:

7 State Application Identifier:

8. APPLICANT INFORMATION:

a Legal Name: State of Arizona

b Employer/Taxpayer Identification Number (EIN/TIN):

866004791

c Organizational DUNS:

804745230

d Address:

Street 1: 1700 W Washington St . Suite 600

Street 2:

City: Phoenix

County: MARICOPA County

State: AZ

Province:

Country: U S A

Zip / Postal Code: 85007

e. Organizational Unit:

Department Name:

Arizona Department of Commerce

Division Name:

Energy Office

f Name and contact information of person to be contacted on matters involving this application:

Prefix: Ms First Name: Linda

Middle Name:

Last Name: Brumm

Suffix:

Title: Fiscal & Program Administration Manager

Organizational Affiliation:

Telephone Number: (602)771-1146

Fax Number: (602)771-1203

Email: lindab@azcommerce.com

APPLICATION FOR FEDERAL ASSISTANCE SF-424

Version 02

9. Type of Applicant:

A State Government

10. Name of Federal Agency:

U S Department of Energy

11. Catalog of Federal Domestic Assistance Number:

81 042

CFDA Title:

Weatherization Assistance for Low-Income Persons

12. Funding Opportunity Number:

DE-FOA-0000051

Title:

Recovery Act - WAP Formula Grants

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Statewide

15. Descriptive Title of Applicant's Project:

The Weatherization Assistance Program enables low-income families to permanently reduce their energy bills by making their homes more energy efficient. During the last 32 years, the U S Department of Energy 's (DOE) Weatherization Assistance Program has provided weatherization services to more than 6 2 million low-income families

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16. Congressional District Of:

a Applicant: AZ-Statewide

b Program/Project: AZ-Statewide

Attach an additional list of Program/Project Congressional Districts if needed:

17. Proposed Project:

a Start Date: 04/01/2009

b End Date: 03/31/2012

18. Estimated Funding (\$):

a Federal	60,144,828.00
b Applicant	0.00
c State	0.00
d Local	0.00
e Other	0.00
f Program Income	0.00
g TOTAL	60,144,828.00

19. Is Application subject to Review By State Under Executive Order 12372 Process?:

- ☐ a This application was made available to the State under the Executive Order 12372 Process for review on:
- ☒ b Program is subject to E.O. 12372 but has not been selected by the State for review
- ☐ c Program is not covered by E.O. 12372

20. Is the applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation)

No

21. By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code Title 218, Section 1001)

☒ I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions

Authorized Representative:

Prefix: Mr First Name: Don

Middle Name:

Last Name: Cardon

Suffix:

Title: Director

Telephone Number: 6027711222

Fax Number: 6027711200

Email: donc@azcommerce.com

Signature of Authorized Representative: Signed Electronically

Date Signed: 09/15/2010

Authorized for Local Reproduction

Standard Form 424 (Revised 10/2005)
Prescribed by OMB Circular A-102

BUDGET INFORMATION - Non-Construction Programs

1 Program/Project Identification No EE0000112		2. Program/Project Title The Weatherization Assistance Program enables low-income families to permanently reduce their energy bills by making their homes more energy efficient. During the last 32 years, the U.S. Department of Energy's (DOE) Weatherization Assistance Program has provided weatherization services to more than 6.2 million low-income families.	
3 Name and Address State of Arizona 1700 W Washington St., Suite 600 Phoenix AZ 85007		4 Program/Project Start Date 04/01/2009	5 Completion Date 03/31/2012

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Federal Catalog No. (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Federal	81 042	\$ 0.00		\$ 60,144,828.00		\$ 60,144,828.00
2.						
3.						
4.						
5. TOTAL		\$ 0.00	\$ 0.00	\$ 60,144,828.00	\$ 0.00	\$ 60,144,828.00

SECTION B - BUDGET CATEGORIES

6 Object Class Categories	Grant Program, Function or Activity				Total (5)
	(1) GRANTEE ADMINISTR ATION	(2) SUBGRANTEE ADMINISTR	(3) GRANTEE T&TA	(4) SUBGRANTEE T&TA	
a. Personnel	\$ 750,355.00	\$ 0.00	\$ 988,474.00	\$ 0.00	\$ 1,738,829.00
b. Benefits	\$ 262,624.00	\$ 0.00	\$ 345,966.00	\$ 0.00	\$ 608,590.00
c. Travel	\$ 30,000.00	\$ 0.00	\$ 276,119.00	\$ 0.00	\$ 306,119.00
d. Equipment	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
e. Supplies	\$ 27,000.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 27,000.00
f. Contract	\$ 1,211,640.00	\$ 2,818,546.00	\$ 1,850,295.00	\$ 4,910,939.00	\$ 56,604,078.00
g. Construction	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
h. Other	\$ 569,545.00	\$ 0.00	\$ 290,667.00	\$ 0.00	\$ 860,212.00
i. Total Direct Charges	\$ 2,851,164.00	\$ 2,818,546.00	\$ 3,751,521.00	\$ 4,910,939.00	\$ 60,144,828.00
j. Indirect	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
k. Totals	\$ 2,851,164.00	\$ 2,818,546.00	\$ 3,751,521.00	\$ 4,910,939.00	\$ 60,144,828.00
7 Program Income	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

BUDGET INFORMATION - Non-Construction Programs

1. Program/Project Identification No. EE0000112		2. Program/Project Title The Weatherization Assistance Program enables low-income families to permanently reduce their energy bills by making their homes more energy efficient. During the last 32 years, the U.S. Department of Energy's (DOE) Weatherization Assistance Program has provided weatherization services to more than 6.2 million low-income families.	
3. Name and Address State of Arizona 1700 W. Washington St., Suite 600 Phoenix AZ 85007		4. Program/Project Start Date 04/01/2009	5. Completion Date 03/31/2012

SECTION A - BUDGET SUMMARY						
Grant Program Function or Activity (a)	Federal Catalog No. (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1.						
2.						
3.						
4.						
5. TOTAL		\$ 0.00	\$ 0.00	\$ 60,144,828.00	\$ 0.00	\$ 60,144,828.00

SECTION B - BUDGET CATEGORIES					
6. Object Class Categories	Grant Program, Function or Activity				Total (5)
	(1) PROGRAM OPERATIONS	(2) LIABILITY INSURANCE	(3) FINANCIAL AUDITS	(4) SERC Subgrantee Administration	
a. Personnel	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 1,738,829.00
b. Benefits	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 608,590.00
c. Travel	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 306,119.00
d. Equipment	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
e. Supplies	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 27,000.00
f. Contract	\$ 42,589,602.00	\$ 81,281.00	\$ 20,225.00	\$ 156,077.00	\$ 56,604,078.00
g. Construction	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
h. Other	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 860,212.00
i. Total Direct Charges	\$ 42,589,602.00	\$ 81,281.00	\$ 20,225.00	\$ 156,077.00	\$ 60,144,828.00
j. Indirect	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
k. Totals	\$ 42,589,602.00	\$ 81,281.00	\$ 20,225.00	\$ 156,077.00	\$ 60,144,828.00
7. Program Income	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

BUDGET INFORMATION - Non-Construction Programs

1 Program/Project Identification No EE0000112		2 Program/Project Title The Weatherization Assistance Program enables low-income families to permanently reduce their energy bills by making their homes more energy efficient. During the last 32 years, the U.S. Department of Energy's (DOE) Weatherization Assistance Program has provided weatherization services to more than 6.2 million low-income families.	
3 Name and Address State of Arizona 1700 W. Washington St., Suite 600 Phoenix AZ 85007		4 Program/Project Start Date 04/01/2009	5 Completion Date 03/31/2012

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Federal Catalog No. (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1						
2						
3						
4						
5. TOTAL		\$ 0.00	\$ 0.00	\$ 60,144,828.00	\$ 0.00	\$ 60,144,828.00

SECTION B - BUDGET CATEGORIES

6 Object Class Categories	Grant Program, Function or Activity				Total (5)
	(1) SERC Program Operations	(2)	(3)	(4)	
a Personnel	\$ 0.00				\$ 1,738,829.00
b Benefits	\$ 0.00				\$ 608,590.00
c Travel	\$ 0.00				\$ 306,119.00
d Equipment	\$ 0.00				\$ 0.00
e Supplies	\$ 0.00				\$ 27,000.00
f Contract	\$ 2,965,473.00				\$ 56,604,078.00
g Construction	\$ 0.00				\$ 0.00
h Other	\$ 0.00				\$ 860,212.00
i Total Direct Charges	\$ 2,965,473.00				\$ 60,144,828.00
j Indirect	\$ 0.00				\$ 0.00
k Totals	\$ 2,965,473.00				\$ 60,144,828.00
7 Program Income	\$ 0.00				\$ 0.00

BUDGET INFORMATION - Non-Construction Programs

1. Program/Project Identification No EE0000112		2. Program/Project Title The Weatherization Assistance Program enables low-income families to permanently reduce their energy bills by making their homes more energy efficient. During the last 32 years, the U.S. Department of Energy's (DOE) Weatherization Assistance Program has provided weatherization services to more than 6.2 million low-income families.	
3. Name and Address State of Arizona 1700 W. Washington St., Suite 600 Phoenix AZ 85007		4. Program/Project Start Date 04/01/2009	5. Completion Date 03/31/2012

Comments:

Commerce no longer has an indirect rate. Commerce staff that were previously paid out of the indirect fund have been included as direct salaries.

U.S. DEPARTMENT OF ENERGY
GOLDEN FIELD OFFICE



BUDGET EXPLANATION FOR FORMULA GRANTS

Applicant: State of Arizona

Budget period: 04/01/2009 - 03/31/2012

Award number: EE0000112

1. **PERSONNEL** - Prime Applicant only (all other participant costs are listed in 6 below and form DOE F 4600 4, Section B Line 6 f. Contracts and Sub-Grants)

Positions to be supported under the proposed award and brief description of the duties of professionals:

Position	Description of Duties of Professionals
Fiscal Auditor	Fiscal auditing of sub-grantees
Energy Engineer	Provide training, technical assistance and on-site monitoring of subgrantees
Administrative Assistant	Provide support for all Energy Office WAP staff
Director	Oversees agency and programs (in lieu of indirect)
Communications	Assists in public communications for program (in lieu of indirect)
Budget Manager	Budget Manager for Commerce (in lieu of indirect)
Procurement Technician	Assists Procurement Officer with contracts and purchase system for program (in lieu of indirect)
Communications	Assists in public communications for program (in lieu of indirect)
Comptroller	Financial reporting, tracking of budgets, processing payments (in lieu of indirect)
Energy Engineer	Provide training, technical assistance and on-site monitoring of subgrantees
Program & Project Specialist	Davis-Bacon
Communications	Graphic designer for Commerce (in lieu of indirect)
IT	Maintains computers, phones, etc for staff (in lieu of indirect)
Accounting Assist	Assists in the budget processes for Commerce (in lieu of indirect)
Admin Assist	Administrative assistant for Commerce front desk (in lieu of indirect)
Energy Engineer	Provide training, technical assistance and on-site monitoring of subgrantees
WAP Program Manager	Manages Program
HR Manager	Assists in hiring staff, processing payroll and all HR duties for Agency (in lieu of indirect)
Program & Project Specialist	Assist with processing payments
Energy Engineer	Provide training, technical assistance and on-site monitoring of subgrantees
Energy Engineer	Provide training, technical assistance and on-site monitoring of subgrantees
Energy Office Director	Provide guidance to staff
Deputy Director	Provides oversight and assistance with programmatic issues (in lieu of indirect)
Energy Engineer	Provide training, technical assistance and on-site monitoring of subgrantees
Accounting, Admin Assist	Assists in the processing of payments sent to Accounting Office (in lieu of indirect)
Fiscal Services Spec	Assists in the processing of payments and financial reporting (in lieu of indirect)

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Fiscal & Prg Admin Mgr

Fiscal Administration

Grant Administrator

Responsible for WAP contract preparation, organization of monthly reports, reimbursement document preparation

Exec Assist to Director

Assists Director of Commerce (in lieu of indirect)

IT

IT Manager Maintains computers, phones, etc for staff (in lieu of indirect)

Direct Personnel Compensation:

Position	Salary/Rate	Time	Direct Pay
Fiscal Auditor	\$48,000 00	225 0000 % FT	\$108,000 00
Energy Engineer	\$45,200 00	225 0000 % FT	\$101,700 00
Administrative Assistant	\$31,930 00	225 0000 % FI	\$71,842 50
Director	\$134,130 00	45 0000 % FT	\$60,358 50
Communications	\$79,380 00	15 0000 % FT	\$11,907 00
Budget Manager	\$70,600 00	60 0000 % FT	\$42,360 00
Procurement Technician	\$34,350 00	60 0000 % FT	\$20,610 00
Communications	\$75,750 00	57 0000 % FT	\$43,177 50
Comptroller	\$77,945 00	90 0000 % FT	\$70,150 50
Energy Engineer	\$45,200 00	225 0000 % FT	\$101,700 00
Program & Project Specialist	\$46,350 00	300 0000 % FT	\$139,050 00
Communications	\$54,900 00	21 0000 % FT	\$11,529 00
IT	\$46,450 00	75 0000 % FI	\$34,837 50
Accounting Assist	\$49,045 00	45 0000 % FT	\$22,070 25
Admin Assist	\$39,870 00	45 0000 % FT	\$17,941 50
Energy Engineer	\$45,200 00	210 0000 % FT	\$94,920 00
WAP Program Manager	\$59,220 00	45 0000 % FI	\$26,649 00
HR Manager	\$63,950 00	45 0000 % FI	\$28,777 50
Program & Project Specialist	\$38,428 00	75 0000 % FI	\$28,821 00
Energy Engineer	\$45,200 00	225 0000 % FI	\$101,700 00
Energy Engineer	\$45,200 00	225 0000 % FI	\$101,700 00
Energy Office Director	\$80,000 00	45 0000 % FI	\$36,000 00
Deputy Director	\$93,240 00	45 0000 % FI	\$41,958 00
Energy Engineer	\$45,200 00	225 0000 % FI	\$101,700 00
Accounting, Admin Assist	\$37,730 00	120 0000 % FI	\$45,276 00
Fiscal Services Spec	\$42,990 00	150 0000 % FI	\$64,485 00
Fiscal & Prg Admin Mgr	\$56,317 00	45 0000 % FI	\$25,342 65
Grant Administrator	\$46,350 00	225 0000 % FI	\$104,287 50
Exec Assist to Director	\$61,650 00	45 0000 % FI	\$27,742 50
IT	\$87,060 00	60 0000 % FI	\$52,236 00
		Direct Pay Total	\$1,738,829 40

2. FRINGE BENEFITS

- a Are the fringe cost rates approved by a Federal Agency? If so, identify the agency and date of latest rate agreement or audit below, and include a copy of the rate agreement

- b. If a above does not apply, indicate the basis for computation of rates, including the types of benefits to be provided, the rate(s) used, and the cost base for each rate. You may provide the information below or provide the calculations as an attachment.

Fringe costs are budgeted at 35% of personnel costs (salaries). This rate has not been approved by a federal agency.

Fringe Benefits include: FICA Taxes, Health Insurance Assessments, Health & Accident, Life, Accidental Death & Dismemberment Disability, Unemployment Compensation, Dental Insurance, Worker's Compensation, and Retirement Plan Payments (Employer's Share).

Fringe Benefits Calculations

Position	Direct Pay	Rate	Benefits
Fiscal Auditor	\$108,000 00	35 0000 %	\$37,800 00
Energy Engineer	\$101,700 00	35 0000 %	\$35,595 00
Administrative Assistant	\$71,842 50	35 0000 %	\$25,144 88
Director	\$60,358 50	35 0000 %	\$21,125 48
Communications	\$11,907 00	35 0000 %	\$4,167 45
Budget Manager	\$42,360 00	35 0000 %	\$14,826 00
Procurement Technician	\$20,610 00	35 0000 %	\$7,213 50
Communications	\$43,177 50	35 0000 %	\$15,112 13
Comptroller	\$70,150 50	35 0000 %	\$24,552 68
Energy Engineer	\$101,700 00	35 0000 %	\$35,595 00
Program & Project Specialist	\$139,050 00	35 0000 %	\$48,667 50
Communications	\$11,529 00	35 0000 %	\$4,035 15
IT	\$34,837 50	35 0000 %	\$12,193 13
Accounting Assist	\$22,070 25	35 0000 %	\$7,724 59
Admin Assist	\$17,941 50	35 0000 %	\$6,279 53
Energy Engineer	\$94,920 00	35 0000 %	\$33,222 00
WAP Program Manager	\$26,649 00	35 0000 %	\$9,327 15
HR Manager	\$28,777 50	35 0000 %	\$10,072 13
Program & Project Specialist	\$28,821 00	35 0000 %	\$10,087 35
Energy Engineer	\$101,700 00	35 0000 %	\$35,595 00
Energy Engineer	\$101,700 00	35 0000 %	\$35,595 00
Energy Office Director	\$36,000 00	35 0000 %	\$12,600 00
Deputy Director	\$41,958 00	35 0000 %	\$14,685 30
Energy Engineer	\$101,700 00	35 0000 %	\$35,595 00
Accounting, Admin Assist	\$45,276 00	35 0000 %	\$15,846 60
Fiscal Services Spec	\$64,485 00	35 0000 %	\$22,569 75
Fiscal & Prg Admin Mgr	\$25,342 65	35 0000 %	\$8,869 93
Grant Administrator	\$104,287 50	35 0000 %	\$36,500 63
Exec Assist to Director	\$27,742 50	35 0000 %	\$9,709 88
IT	\$52,236 00	35 0000 %	\$18,282 60
Fringe Benefits Total			\$608,590 34

3. TRAVEL - Identify total foreign and domestic travel as separate items.

- a. Proposed travel:

Purpose of Trip	Number of Trips	Cost Per Trip	Total
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10/19/2010

Davis-Bacon Specialist and Fiscal Monitor travel 3 years	1	\$30,005 00	\$30,005 00
Monitoring of sub-grantees and attending conferences 3 years	1	\$276,114 00	\$276,114 00
		Travel Total	\$306,119 00

b Basis for computation of travel expenses (e.g., current airline quotes, past trips, federal or organization travel policy, etc.):

Travel expenses are estimated for yearly rental of motor pool vehicles for Energy Engineers use in monitoring of sub-grantees and travel expenses associated with monitoring and travel to weatherization conferences and other meetings. Travel is also included for Davis-Bacon Specialist to assist sub-grantees and Energy Office Staff on requirements and Fiscal Auditor for on-site fiscal monitoring of Sub-grantees.

All travel follow State Procurement rules and regulations.

Subgrantee Estimated Unit estimated mileage @ 0.445 per mile meals \$45 per day lodging \$75 per night total

City of Phoenix 144 \$	3,012 \$	3,012		
Maricopa County 108 \$	3,845 \$	3,845		
MesaCAN 108 \$	2,403 \$	2,403		
NACOG 108 \$	4,806 \$	4,860 \$	8,100 \$	17,766
SEAHRC 108 \$	4,806 \$	4,860 \$	8,100 \$	17,766
WACOG 108 \$	4,806 \$	4,860 \$	8,100 \$	17,766
TUL 108 \$	2,884 \$	4,860 \$	8,100 \$	15,844
PIMA COUNTY 108 \$	2,884 \$	4,860 \$	8,100 \$	15,844
CAHRA 108 \$	1,802 \$	4,860 \$	8,100 \$	14,762
GILA COUNTY 108 \$	2,403 \$	4,860 \$	8,100 \$	15,363
Total Auditing Travel 1116 \$	33,650 \$	34,020 \$	56,700 \$	124,370
Motorpool vehicle lease vehicle lease charge Gas & Maintenance Total				
3 vehicles @ \$5,000 per year \$	45,000 \$	73,171 \$	118,171	

Personal vehicle mileage reimbursement for out of town trips estimated at 25% Motorpool gas & maintenance estimated at 75% for out of town trips.

Conferences Estimated attendees lodging \$155 per night meals \$65 per day Airfare \$350 Total				
National WAP Conference (5 days) 8 \$	14,880 \$	6,240 \$	8,400 \$	29,520
Estimated attendees lodging \$98 per night meals \$50 per day Airfare \$185				
Energy Outwest (3 days) 7 \$	2,058 \$	700 \$	1,295 \$	4,053
Total Conference Travel 15 \$	16,938 \$	6,940 \$	9,695 \$	33,573
Total T&TA \$	276,114			

Davis-Bacon and Auditor# of trips estimated mileage @ 0.445 per mile meals \$45 per day lodging \$75 per night total

City of Phoenix 11 \$	230 \$	230		
Maricopa County 10 \$	356 \$	356		
MesaCAN 17 \$	378 \$	378		
NACOG 16 \$	2,848 \$	720 \$	1,200 \$	4,768
SEAHRC 17 \$	3,026 \$	765 \$	1,275 \$	5,066
WACOG 16 \$	2,848 \$	720 \$	1,200 \$	4,768
TUL 17 \$	1,816 \$	765 \$	1,275 \$	3,856
PIMA COUNTY 17 \$	1,816 \$	765 \$	1,275 \$	3,856
CAHRA 17 \$	1,135 \$	765 \$	1,275 \$	3,175
GILA COUNTY 17 \$	1,513 \$	765 \$	1,275 \$	3,553
Total Admin 155 \$	15,965 \$	5,265 \$	8,775 \$	30,005
Total Travel Budget \$	306,120			

4. **EQUIPMENT** - As defined in 10 CFR 660.202 Definitions are at http://www.access.gpo.gov/nara/cfr/waisidx_00/10cfr

a Basis of cost estimates (e.g., vendor quotes, prior purchases of similar or like items, etc.):

b Equipment to be purchased and justification of need:

Equipment	Unit Cost	Number	Total Cost	Justification of Need
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10/19/2010

5. **MATERIALS AND SUPPLIES** - As defined in 10 CFR 660.202.

- a Basis cost estimates (e.g., vendor quotes, prior purchases of like items, etc.):

Computers, cameras and misc. office supplies basis of cost: prior purchases and historical costs
 Purchase of misc. monitoring equipment and replacement of equipment as needed: cost will be determined by state contract pricing. Anticipated equipment expenditures: Smoke pens, flashlights, inspection mirrors, GPS units, Static draft test probe, hoses and connectors for flower doors, pressure pans, laser temperature gun, tool bags, gas detectors, misc other equipment and equipment that needs to be replaced (unable to determine what equipment will need to be replaced until it no longer works). Costs will be determined by state contract or quotes.

- b Supplies to be purchased and justification of need:

General Category	Cost	Justification of Need
Cameras (5@ 185 ea)	\$925 00	Required for program monitoring
Computers(7@\$1,200 ea)	\$8,400 00	Required for program management
Purchase of misc Monitoring equipment and replacement of equipment as needed	\$11,675 00	Required for program monitoring and training
Misc office supplies (copy paper, pens, pencils, file folders etc) \$2,000 per year	\$6,000 00	Required for program management
Materials and Supplies Total	\$27,000 00	

6. **CONTRACTS AND SUBGRANTS** - All other participant costs including subcontractor sub-grants, and consultants

For ongoing subcontractors and sub recipients described elsewhere in the application, document and item number is listed

Name of Proposed Sub	Total Cost	Basis of Cost*
See Annual File (subgrantee portion of grant funds)	\$50,420,593 00	Per agency allocation is determined by population in city, county or area of state
SBSIC Support, facility expenses, personnel, expansion of diagnostic lab (\$251,695 per year)	\$755,085 00	Southwest Building Science Training Center (SBSIC) provides weatherization auditors and crews with training required for program
Individual Measures Analysis (\$100,000 per year)	\$300,000 00	Additional analysis on homes that can't be provided with computer modeling Sub-grantees and utility partners
SERC Awards	\$3,121,550 00	City of Phoenix, MesaCAN and WACOG
Additional Energy Office Admin to be contracted to sub-grantees as needed (\$356,985 per year)	\$1,070,955 00	Unallocated funds to be contracted to subgrantees on an as needed basis
Additional Energy Office T&TA to be contracted to sub-grantees as needed (\$595,299 per year)	\$785,897 00	Unallocated funds to be contracted to sub-grantees on an as needed basis
Additional Local Agency Trainings (sub-grantees) \$50,000 per year	\$150,000 00	Assist local agencies with additional training
Contracts and Subgrants Total	\$56,604,080 00	

*For example, Competitive, Historical, Quote, Catalog

7. **OTHER DIRECT COSTS** - All direct costs not included in above categories

- a Basis for cost estimates (e.g., vendor quotes, prior purchase of similar items, etc.):

10/19/2010

Admin:

Office Space: \$28,154 x 3 years = \$84,462

Other Operating: \$10,120 x 3 years = \$30,360

T & TA

Office Space: \$36,722 x 3 years = \$110,166

Other Operating: \$13,200 x 3 years = \$39,600

Single Agency Audit, Newspaper Ad and Court Reporter are historical data and vendor quotes.

Outreach is anticipated expenditure for promotion for program. Outreach is in the design stages.

General Accounting Office (GAO) allocation of ARRA funds: \$281,796 (\$93,932 per year)

b Other direct costs and justification of need:

General Description	Cost	Justification of Need
Single Agency Audit	\$6,621 00	Required by Agency
Court Reporter for Public Hearing	\$1,800 00	Due to increased funding, considered it best to have Court Reporter transcript to avoid any issues regarding content of hearing.
Office Space	\$194,628 00	Estimated \$5,564 per FTE Per FTE amount determined by Agency See below for breakdown for Admin and T&TA
NASCSP Annual Dues	\$4,800 00	The National Association for State Community Services Programs (NASCSP) is the premier national association charged with advocating and enhancing the leadership role of states in preventing and reducing poverty NASCSP members are made up of state administrators of the Weatherization Program
2009 Public Hearing	\$600 00	Notice for Public Hearing
General Accounting Office (GAO) allocation of ARRA funds	\$281,801 00	Mandated by Recovery Act
Other Operating	\$69,960 00	Estimated \$2,000 per FTE Required for management of program See below for breakdown for Admin and T&TA
Outreach	\$300,000 00	Promotion of program via meetings, conferences, advertising, booklets, etc
Other Direct Costs Total	\$860,210 00	

8 **INDIRECT COSTS**

a Are the indirect cost rates approved by a Federal agency? If so, identify the agency and date of latest rate agreement or audit and provide a copy of the rate agreement

b. If the above does not apply, indicate the basis for computation of rates, including the types of benefits to be provided, the rate(s) used, and the cost base for each rate You may provide the information below or provide the calculations separately.

The name and phone number of the individual responsible for negotiating the State's indirect cost rates

Name:

Phone Number:

10/19/2010

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WEATHERIZATION ANNUAL FILE WORKSHEET

Expiration Date: 6-30-08

Identification: EE0000112

State: AZ

Program year: 2009

Budget period: 04/01/2009 - 03/31/2012

II.3 Subgrantees

Grantee	City	Tentative	
		Funding	Units
CAHRA	Eloy	2,269,618.00	275
City of Phoenix, Municipal Building	Phoenix	7,222,865.00	960
City of Phoenix, Municipal Building	Phoenix	698,250.00	56
Gila County Community Action	Globe	1,744,457.00	204
InterTribal Council of Arizona	Phoenix	1,000,000.00	126
Maricopa County Government	Phoenix	11,911,987.00	1,604
MesaCAN	Mesa	275,000.00	22
MesaCAN	Mesa	1,750,512.00	227
NACOG	Flagstaff	7,500,359.00	997
Pima County	Tucson	1,705,544.00	199
SEACAP	Safford	4,654,446.00	603
Tucson Urban League	Tucson	4,749,363.00	618
WACOG	Yuma	5,911,442.00	778
WACOG	Yuma	2,148,300.00	170
TOTALS		53,542,143.00	6,839

II.4 WAP Production Schedule

Total Units (excluding reweatherized)	6,409
Units by type (excluding reweatherized):	
Owner-occupied single-family site-built	
Single-family rental site-built	
Multi-family	
Owner-occupied mobile home	
Renter-occupied mobile home	
Shelter	
Units by occupancy:	
Elderly	
Persons with disabilities	
Native American	
Children	
High residential energy user	
Household with a high energy burden	
Other unit types:	
Rewatherized Units	0

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Average Unit Costs, including Reweathering, Subject to DOE Program Rules		
VEHICLE & EQUIPMENT AVERAGE COST PER DWELLING UNIT (DOE RULES)		
A	Total Vehicles & Equipment (\$5,000 or more) Budget	\$0.00
B	Total Units Weatherized	6,409
C	Total Units Reweatherized	0
D	Total Dwelling Units to be Weatherized and Reweatherized (B+C)	6,409
E	Average Vehicles & Equipment Acquisition Cost per Unit (A divided by D)	\$0.00
AVERAGE COST PER DWELLING UNIT (DOE RULES)		
F	Total Funds for Program Operations	\$42,589,602.00
G	Total Dwelling Units to be Weatherized and Reweatherized (from line D)	6,409
H	Average Program Operations Costs per Unit (F divided by G)	\$6,645.28
I	Average Vehicles & Equipment Acquisition Cost per Unit (from line E)	\$0.00
J	Total Average Cost per Dwelling (H plus I)	\$6,645.28

II.5 Energy Savings

Method used to calculate energy savings:

WAP algorithm

☐

Other (describe below)

☒

Arizona is working on a process that will directly link utility bill analysis with data to the weatherization labor completed (measures and cost).

Previously, Arizona utilized DOE 1996 Meta-evaluation data. In this study, a weatherized home saved an average of 31.7 MBTUs based on all fuel types.

In 2007, Arizona implemented an analysis procedure that reviews pre- and post-utility usage information.

Work Plan

To determine the program's effectiveness, data on the condition of client's homes, measures completed, cost of measures, and utility histories are required and analyzed before and after weatherization work is completed.

House Data

The AZ WAP reporting process presently collects detailed information on the condition of energy-related features, energy measures completed and the cost of individual measures on Weatherization jobs through our web-based reporting system. This data includes measured reduction (CFM50 readings) in infiltration and duct leakage, room pressure balancing and other energy improvements such as insulation, window treatments and equipment repair and replacement. This data provides a base line (as found) of the home, what work was completed, -cost of individual measures and utility data to determine program effectiveness.

Measure Analysis

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There are a number of potentially cost-effective measures that cannot accurately model utilizing computer software. AZ WAP will be carrying out short-term analysis on specific measures to determine effectiveness. This analysis will be carried out in partnership with our local subgrantees and utility partners.

Utility Tracking

The AZ WAP has an established partnership with Arizona Public Service, Tucson Electric Power, Unisource Gas and Electric and Southwest Gas to obtain and review utility bills for weatherized homes. Through this partnership, AZ WAP is able to access a five-year utility history to compare the pre- and post-weatherization energy consumption. The main barrier to expanding the number of homes analyzed in rural Arizona is the high percentage of homes utilizing wood or propane as heating fuels.

Cost-effectiveness analysis

To date, an analysis of 185 homes has been completed on homes utilizing utility data. This analysis is ongoing, new data will be updated to these values on a quarterly basis.

We have provided Savings to Investment Ratios (SIR) for total investment from all funding spent (diagnostics, energy, health and safety measures) and for energy-related measures only (diagnostics and energy measures).

Assumptions

Present value is based on 17.5 years measure life, discount rate of 3% and a utility cost escalation rate of 3%.

On evaporative cooling conversions to air conditioning only, present value includes water savings of \$100 per year.

Results Summary

To date, the combined SIR of all jobs reviewed for funds spent on diagnostics, energy measures and health and safety measures was 1.16. The combined SIR includes an increased number of evaporative cooling conversions to air conditioning for health reasons. Due to the "heat island effect" in the Phoenix area, evaporative cooling does not provide adequate cooling for the elderly and disabled.

To date, the combined SIR of all jobs reviewed for funds spent on energy measures and diagnostics was 1.37.

The average savings per home (all reviewed) was 2,650 kWh and 30 therms of natural gas.

The average Btu savings per home is 13,191,000 of site energy.

The average Btu savings per home is 31,400,000 source energy (11,000 BTU per kWh).

Energy Savings (source energy): 93 homes completed X 31,000 Btu (source energy kWh=11,000 BTUs) = 2,800 MBtus

WEATHERIZATION ANNUAL FILE WORKSHEET (cont)**Identification: EE0000112****State: AZ****Program year: 2009****Budget period: 04/01/2009 - 03/31/2012**

Energy savings (site energy): 93 homes completed X 13,000 Btu = 1,200 MBtus

AZ WAP will list "source energy" savings as we feel it is a more accurate reflection of electrical energy saved, with its inherent generation and line loss tendencies

The AZ WAP Utility Tracking program will continue to track utility histories of completed jobs. The tracking of post-weatherization energy savings will provide on-going positive feedback to weatherization staff, highlighting measures or processes that provide high returns. Local operational changes can be based on this information, improving cost-effectiveness.

Estimated energy savings: 198,000.00 (MBtu)

Estimated prior year savings:

Actual:

If variance is large, explain:

II.6 Training, Technical Assistance, and Monitoring Activities

AZ WAP formal training will be carried out at the Southwest Building Science Training Center (SBCTC).

AZ WAP funds a full-time training coordinator and administrative assistant at the SBCTC. The coordinator position will head-up our expansion effort, manage training classes and provide day-to-day training. The training is being carried out by Energy Office staff, SBCTC staff and private trainers. The Energy Office has hired five new auditors to assist with training, technical assistance and auditing of homes. SBCTC is also working on being a local provider for Saturn Resources training courses (on line).

Agencies will send new hires to the SBCTC for training. Training is not a requirement prior to hire.

The Centers training focuses on five main areas during the initial stages of ramp-up:

Boot Camp - Weatherization Boot camp (5-day training) provides a new technician with the basic understanding on residential diagnostics and repair.

o Day 1 - Energy/WAP basics classroom

o Day 2 - Thermal performance and health and safety classroom

o Day 3 - Health and safety lab and pressure diagnostic classroom

o Day 4 - Pressure diagnostics lab

o Day 5 - Diagnostics lab, measures lab and test

BPI certification - BPI certification consists of an optional 2-day course to review energy basics, thermal performance, health and safety and pressure diagnostics followed by the BPI certification field and written tests.

Auditor training (Pre-requisites: Boot camp) - Provides specific training on residential auditing, program requirements, installation measures and repair requirements, writing "scopes of work" based on the program priority list or REM/design and final inspections.

Measures Classes - These classes (1-day) will focus on individual measures installation methods. Measures classes will include air sealing, duct sealing, insulation, appliance trouble-shooting repairs for standard and mobile homes.

Lead Renovator Certification- (1-day) will focus on training weatherization workers in the proper way to conduct work in buildings that may contain lead and this class meets EPA requirements for the LRRP Rule.

The Training Center offers boot camp and BPI courses on an alternate week schedule. Classes are at full capacity for the next eight weeks. To date, SBCTC has put more than 60 individuals through the BPI certification process. Two boot camps have been held with 19 WAP technicians attending. Approximately 20 technicians per month are anticipated to take the Boot Camp course and 10 contractors are expected to complete the BPI process per month.

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Auditor training and Measures training will coincide with the demand for Boot Camp and BPI courses

We anticipate training 20 to 30 weatherization technicians per month. The number of BPI certification trainings will continue at approximately 10 per month for the foreseeable future beyond weatherization's need, due to demand resulting from utility sponsored incentive programs. These contractors will be available to local agencies for weatherization work if needed.

Additional training and technical assistance will be provided to local agencies by AZ WAP staff during monitoring visits. This training will focus on areas determined to require improvement of services provided during monitoring visits.

For details on SBCTC and courses: <http://www.azhomeperformance.com/>

Monitoring

AZ WAP has hired five monitors to carry out quality control. All monitors will become BPI certified. Each monitor will be assigned two agencies on a 6-month rotation. Agencies will be visited on a bi-weekly basis to inspect completed work, review work and audits in process, desk audits of job files and training and technical assistance as needed.

The specific areas addressed in a monitoring visit will be based on technical reports submitted to our office via the web-based reporting tool, results of previous visits and experience level of technicians completing monitored jobs.

The State will expand reports available from the web-based reporting tool. These reports provide the State with detailed information on measures completed by a subgrantee on a per job basis or for all jobs completed per month. The information includes total expenditures for an individual job/individual measures, average expenditures per job on an agency or statewide basis and average expenditures per individual measures on an agency or statewide basis. These reports can be generated for individual or total funding sources.

Our monitoring staff will also provide local agencies with assistance in project management. This team has an extensive background in construction management (4 of 5 come from the homebuilding industry). This experience will optimize the assistance local agencies will receive from the Energy Office and greatly expand the number of multi-family projects weatherized in partnership with HUD and local housing authorities.

AZ WAP will work with subgrantees individually and as a group, to develop and implement client education material. The Arizona Policy Advisory Council (AZ PAC) is also being utilized to assist in the expansion of a client education program. There are a number of members whose organizations have extensive experience in outreach/education programs. Subcommittees are being formed to work on client education and outreach efforts.

II.7 DOE-Funded Leveraging Activities

N/A No funds are being used for leveraging

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II.8 Policy Advisory Council Members (names, groups, agencies)

Arizona Community Action Association (ACAA)	Cynthia Zwick
Arizona Public Service Company	Jerardo Mendoza
Tucson Urban League /	Jonathan Peck
Teresa Brice	
Southwest Gas Corporation	Bobbi Sterrett
Gila County Community Action / Office of Community Services	Malissa Buzan, Housing Services Program Manager
James Ball	
Residential Utility Consumer Office (RUCO)	Ernie Nedd
NACOG / Northern Arizona Council of Governments	Mr. Bob Baca, WAP Program Manager
James H Svara	
Pima County Community Services Dept	Jesus Duran
Ernesto Fonseca	
Tucson Electric Power Company	Vickie Boes
Salt River Project	Jerry Thieken

II.9 State Plan Hearings (send notes, minutes, or transcript to the DOE office)

Hearing Date	Newspapers that publicized the hearings and the dates that the notice ran.
10/27/2010	Posted with the Arizona Department of Administration public hearing notices and on the Arizona Department of Commerce website
04/14/2009	Arizona Republic - April 4 Also posted with the Arizona Department of Administration public hearing notices and on the Arizona Department of Commerce website.

II.10 Adjustments to On-File Information

Master File was updated as part of this submission

II.11 Miscellaneous

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A transcript from Public hearing, held April 14, 2009 can be viewed at the following website:
<http://www.azcommerce.com/Energy/Low-Income+Weatherization+Assistance+Program.htm>

Information regarding the "WAP Public Information Campaign Manual" has been added to our Weatherization Website.

Policy Advisory Council - In the past, the PAC has been consulted for input on the WAP plan and Program requirements and this has taken place through individual calls and e-mails. This year, the PAC provided little, if any, response on materials sent for their review and comment from AZ WAP. Because of this and input from DOE to hold regular meetings and provide minutes AZ, WAP has responded by creating formal subcommittees that will meet via conference calls on a regular basis and by establishing a regular schedule of PAC meetings for the coming year. The regular PAC meetings will be held on a quarterly basis. AZ WAP has also responded to the recommendation by DOE by expanding membership of the PAC to include a broader range of expertise and knowledge from individuals that have made a commitment to this process.

The first priorities for the PAC will be client education and client outreach. Two PAC subcommittees covering outreach and client education have been formed. One of the key additions to the PAC in the area of energy education is the involvement of Arizona State University's Stardust Center. Ernesto Fonseca, ASU Stardust Designer/Architect, has committed to taking the lead in the expansion of client educational material.

http://stardust.asu.edu/about_us/

For the first time, Arizona will need to implement an outreach program to qualified clients due to increased funding. AZ WAP will also meet with the Outreach Subcommittee to help develop and implement a successful outreach campaign. A number of the new members have extensive experience with community organizing and affordable housing. Teresa Brice from Local Initiatives Support Corporation (LISC) Phoenix has stepped forward to lead our effort in community outreach.

http://www.lisc.org/phoenix/about_us/statement_6382.shtml

Materials developed by the subcommittees will be reviewed as part of the regularly scheduled PAC quarterly meeting. As opposed to the past where these meetings were conducted through phone and email these quarterly meetings and the subcommittees will have posted agendas and we will post the minutes on our website within 48 hours of adjournment.

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STATE PLAN/MASTER FILE WORKSHEET

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This worksheet should be completed as specified in Section III of the Weatherization Assistance Program
Application Package

III.1 Eligible Population

III.1.1 General Description

Definition of income used to determine eligibility:

Arizona defines "low-income" for eligible purposes as follows:

Income is at or below 200% of the federal poverty level determined in accordance with criteria established by the Office of the Secretary, U S Department of Health and Human Services.

Household members who have received cash assistance payments under AFDC or SSI, are automatically eligible for Weatherization assistance.

The re-weatherization date has been changed to September 30, 1994.

Outreach

Primary outreach activities to promote the Weatherization Program to qualified clients are the responsibility, at a local level, of the subgrantees. The Energy Office will support these efforts through the development and implementation of a statewide outreach plan and promotional materials. The Energy Office will utilize the Arizona Community Action Association to assist in developing, implementing and coordinating statewide outreach via conferences, electronic and print media and publications.

Procedures to determine that units weatherized have eligibility documentation:

Definition of income used to determine eligibility:

An authorized representative of a subgrantee shall inspect at least one document from the following list of acceptable documents before certifying the program applicant household as being income eligible for Weatherization services available under this contract.

Acceptable documents for purpose of this provision are the following:

AFDC, SSI, or General Welfare award letter or document, Social Security Statement of earnings, Income tax return for prior year.

For income from the Social Security Administration Benefits-SSA benefits (sometimes referred to as RSDI - retirement, survivors, and disability insurance) are granted to eligible wages earners and/or their dependants or survivors. DO NOT INCLUDE THE MEDICARE DEDUCTION IN THE TOTAL AMOUNT.

Income is determined twelve (12) months prior to the date of application for program benefits under this contract. Re-certification of income eligibility is required if 180 days or more have elapsed from the initial application date, and Weatherization work has not started on the applicant's dwelling.

Definition of children: Below age 18

Recommend tribal organization(s) be treated as local applicant? Yes

If YES, Recommendation: If NO, statement that assistance to low-income tribe members and other low-income persons is equal:

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STATE PLAN/MASTER FILE WORKSHEET (continued)
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Arizona recommends that the Golden Field Office (GFO) directly fund the Navajo Nation

Low-income members of an Indian Tribe will receive benefits equivalent to the assistance provided to other low-income persons within the State of Arizona. There will be no discrimination in benefits because an applicant is a member of an Indian Tribe
ITCA funds will be treated as local applicant for ARRA funds only

III.1.2 Selection of Areas to Be Served

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STATE PLAN/MASTER FILE WORKSHEET (continued)

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Local agencies

Arizona utilizes 10 local Weatherization agencies to fully implement the State Plan and provide services to the eligible population. Project service areas are historical in nature, originating many years ago at the time of community action agency establishment in Arizona. Service area boundaries are typically drawn along county lines or tribal land boundary lines.

Individual subgrantees are selected on the basis of their:

Experience and performance in Weatherization or housing renovation activities

Experience in assisting low-income persons in the area to be served; and

Capacity to undertake a timely and effective Weatherization Program

Preference is given to any Community Action Agency or other public or non-profit entity, which has, or is currently administering an effective program under 10 CFR 440 et seq. or under Title II of the Economic Opportunity Act of 1964, with program effectiveness evaluated by consideration of factors including, but not necessarily limited to the following:

The extent to which the past or current program achieved or is achieving Weatherization goals in a timely fashion;

The quality of the work performed by the subgrantee

The number, qualifications and experience of staff members of the subgrantee

All subgrantees are agencies which meet the requirements of 10 CFR 440.15 and which have been selected based upon on-site inspections made by State staff, as well as on transcripts of the public hearing which affirm that there are no public objections to any of the subgrantees selected.

2010 WAP OPERATOR SERVICE AREA

Northern Arizona Council of Governments (NACOG)	Apache, Navajo, Coconino, Yavapai Counties
Southeastern Arizona Human Community Action Program (SEACAP)	Graham, Greenlee, Cochise, Santa Cruz Counties
Western Arizona Council of Governments (WACOG)	Mohave, La Paz, and Yuma Counties
City of Phoenix	Incorporated City of Phoenix
Maricopa County HRD	Maricopa County less Mesa & Phx City of Mesa MesaCAN
Tucson Urban League	City of Tucson and City of South Tucson
Community Action Human Resources Agency (CAHRA)	Pinal County
Gila County Community	Gila County Action Program
Pima County Government	Rural Pima County

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III.1.3 Priorities

Priorities shall be given to the following eligible populations:

- Elderly
- Handicapped
- High energy consuming housing

The web reporting tool will be updated to capture homes receiving priority due to high energy costs

III.2 Climatic Conditions

Low desert hot and dry to mountain cold (7000 hdd). See climate zone maps.
http://www.azcommerce.com/doclib/energy/climate_zones_az.pdf

III.3 Weatherization Work

III.3.1 Type of Work to Be Done

Measures completed

Getting an energy-efficient house is really a question of doing a few things very well and understanding the house is a system. The following are the areas we concentrate on:

- Getting the home tight (air sealing)
- Insulating the home right (focus on insulation performance, not just r-value)
- Dealing with sunlight (shade screens and reflective coatings)
- Correctly installing efficient equipment (duct sealing, pressure balanced, air flow, sizing and charge)
- Base loads (refrigerators, CFL)

For more details: http://www.azcommerce.com/doclib/energy/eow_wx_field_guide.pdf

III.3.2 Energy Audit Procedures

The Energy Office hired a staff person with experience in the prevailing wage requirements. This staff person provides training to the local agencies at the training center and on a one-on-one basis.

<u>Unit Types</u>	<u>Audit Procedures and Dates Most Recently Approved by DOE</u>
Single-family	Information for review sent to DOE November 2008 and February 2010
Multi-family	Information for review sent to DOE November 2008 and February 2010
Mobile Home	Information for review sent to DOE November 2008 and February 2010

III.3.3 Final Inspection

A final inspection shall be performed on all jobs.

The final inspection shall verify that the house characteristics reported are correct.

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STATE PLAN/MASTER FILE WORKSHEET (continued)

Identification Number: EE0000112, State: AZ, Program Year: 2009

The inspection shall include a review of all measures listed on the Work Performed report to verify installation has been completed in a safe and effective manner following program requirements

The inspection shall include a review of the diagnostic result, both pressure and combustion safety, to verify that all applicable tests were completed. The inspector should complete diagnostics on a sampling of homes to compare with reported results

III.3.4 Assessment of Effectiveness

Cost-effectiveness analysis

To date, an analysis of 185 homes has been completed on homes utilizing utility data. This analysis is ongoing, new data will be updated to these values on a quarterly basis

Provided are Savings to Investment Ratios (SIR) for total investment from all funding spent (diagnostics, energy measures and health and safety measures) and for energy-related measures only (diagnostics and energy measures)

Assumptions

Present value is based on 17.5 years measure life, discount rate of 3% and a utility cost escalation rate of 3%.

On evaporative cooling, (conversions to air conditioning only) present value includes water saving of \$100 per year

Results Summary

The combined SIR of all jobs reviewed to date for funds spent on diagnostics, energy measures and health and safety measures was 1.16. The combined SIR includes an increased number of evaporative cooling conversions to air conditioning for health reasons. Due to the "heat island effect" in the Phoenix area, evaporative cooling does not provide adequate cooling for the elderly and disabled.

To date, the combined SIR of all jobs reviewed for funds spent on energy measures and diagnostics was 1.37.

The average per home (all reviewed) was 2650 kWh and 30 therms of natural gas.

The average BTU savings per home is 13,191,000 of site energy.

The average BTU savings per home is 31,400,000 source energy (11,000 BTU per kWh).

The AZ WAP utility tracking program will continue to track utility histories of completed jobs. The tracking of post-weatherization energy savings will give positive feedback to weatherization staff, highlighting measures or processes that provide high returns. Local operational changes can be based on this information to improve cost-effectiveness.

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III.4 Health and Safety

PURPOSE

To establish the policies and procedures under which health and safety concerns are addressed in the Weatherization Assistance Program (WAP).

GOAL

To ensure energy-saving results of the Weatherization Assistance Program while promoting a healthy and safe environment for clients and WAP workers and contractors.

SCOPE

Energy-related health and safety concerns need to be remedied before, or because of, the installation of weatherization materials. Therefore, energy-related health and safety hazards associated with weatherization activities may be remedied or prevented with DOE funds. Measures and their costs must be reasonable and must not seriously impair the primary energy conservation purpose of the program.

The Health and Safety Procedures are applicable to all activities under the WAP.

Subgrantees are allowed to spend up to 20% of their program operations budget on health and safety measures. Health and safety expenditures will be tracked by the State utilizing the web data base reporting tool. The State will review jobs completed on a monthly basis and will verify that all health and safety measures have been properly identified and confirm the spending to date with the subgrantee.

A. Grantee Health & Safety

The Energy Office - WAP field monitors will follow all applicable health and safety rules with respect to the conduct of their on-site job visits including: the use of face masks; hard hats; appropriate footwear; and other such applicable attire and equipment to minimize personal risks.

B. Crew and/or Contractor Health & Safety

Arizona sub-grantees and their contractors will comply with Occupational Safety and Health Administration (OSHA) requirements in all weatherization activities.

The costs for sub-grantees to comply with OSHA requirements (action items and measures that DOE funds and receives credit for) may be charged under health and safety, tools and equipment, incidental repairs, etc. The cost category selected will be charged consistently throughout the state (from agency to agency) for the same activity.

Because of the wide range of activities involved in weatherizing a home, ensuring crew health and safety requires a broad knowledge of appropriate OSHA requirements. Some of these requirements include, but are not limited to: respirator protection; techniques for safely lifting heavy objects; electrical equipment safety; ladder safety; and general worker protection. OSHA standards should be consulted for further details.

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Other useful information includes Material Safety Data Sheets (MSDS) that identify potential health risks and describe the proper use, handling, and storage of a wide variety of materials, including some common weatherization materials. MSDS also recommend personal protective equipment and first-aid measures.

C. Client Health and Safety

Weatherization services can be provided in a manner that minimizes risk to workers and clients. Although the Weatherization Assistance Program does not provide all of the solutions, awareness of potential hazards is essential to provide quality services. A list of the more common hazards and DOE's preferred approach to them are discussed in Section D. Other energy-related hazards should be considered on a case-by-case basis.

Grantees and subgrantees are required to take all reasonable precautions against performing work on homes that will subject workers or clients to health and safety risks. If there is any doubt that weatherization work can be conducted in a manner that is safe for all parties concerned, subgrantees must not proceed further.

Before beginning work on the residence, subgrantees will take into consideration the health concerns of each occupant, the condition of the dwelling, and the possible effect of work to be performed on any particular health or medical condition of the occupants. When a person's health is fragile and/or the work activities would constitute a health or safety hazard, the occupants at risk will be required to leave the home during these work activities or the work will be suspended until such a time as it can be performed appropriately.

D. Potential Hazard Considerations

1. Biological

Removal of mold, odors, viruses, bacteria, unsanitary (including raw sewage) conditions, and rotting wood is not a Weatherization responsibility; however, subgrantees frequently encounter these conditions. DOE funds may be used if these conditions must be remedied to allow effective weatherization work and/or to assure the immediate or future health of workers and clients. The Energy Office - WAP requires that its subgrantees seek prior approval to proceed before attempting to weatherize such dwellings with *Biological* problems.

Arizona subgrantees will exercise caution when selecting air tightness limits for dwellings with these problems. Since these conditions are often related to moisture, Arizona subgrantees may use DOE health and safety funding to acquire moisture-detection instruments. Subgrantees should incorporate moisture detection into their initial energy audits. If necessary, weatherization services may need to be delayed until moisture problems can be corrected by other funding sources.

2. Combustion Appliances and Combustion Gases

The following policy must be strictly adhered to when completing Weatherization work. If any house fails these program safety standards and the problem cannot be remedied, the homeowner must be notified in writing and a copy placed in the client's file.

Perform air sealing and duct repair **only** in conjunction with pressure diagnostics to ensure that sufficient ventilation and draft rates are maintained in the home.

A UL listed carbon monoxide detector (Underwriters Laboratories 2034-98) shall be installed in all structures

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with an attached garage or a combustion appliance located in the conditioned space

Research and follow the local health and safety codes and standards dealing with residential ventilation requirements for occupants and combustion equipment.

No air sealing (including duct repair) should be done if there is a high pollution source, such as a non-vent combustion heater, that can't be removed

No air sealing (including duct repair) should be done if there are existing health and safety problems in the home.

No air sealing (including duct repair) should be done if there is Carbon Monoxide (CO) present in the flue gases higher than 100 PPM

No air sealing (including duct repair) should be done if there is a possible gas leak

No air sealing (including duct repair) should be done if CO is greater than 9 PPM in the living space.

If CFM50 is less than 1500 CFM for the home or 300 CFM per person (whichever is greater), the homeowner must be advised of the tightness of the home. Any further air sealing (including duct repair) may require that an active ventilation strategy be employed.

Under normal operating conditions, an air handler cannot create room pressures with a magnitude of - 3.0 Pascal's, or greater with reference to outside, anywhere in a combustion appliance zone.

Corrective action must be completed before or in conjunction with air sealing (including duct repair) if a negative pressure of 3 Pascal's or greater exists or is produced by repair work in a combustion appliance zone.

Flame change is an indication of a cracked heat exchanger - no air sealing (including duct repair) should be done until the problem is fixed.

If spillage of flue gases occurs for more than one minute - no air sealing (including duct repair) should be done until the problem is fixed.

If draft is low, it must be fixed before air sealing (including duct repair) is completed.

IF THE CONDITIONS DESCRIBED BELOW CONCERNING COMBUSTION AIR ARE NOT MET, NO AIR SEALING (INCLUDING DUCT REPAIR) SHOULD BE DONE:

In homes of ordinary tightness insofar as infiltration is concerned, all or a portion of the air for fuel-burning appliances may be obtained from infiltration when the requirements for 50 cubic feet per 1000 Btu/hr input is met. Two openings are required and one shall be within 12 inches of the bottom of the space containing the combustion equipment. Openings shall allow space to communicate with the rest of the house. A minimum-free area of one square inch per 1000 Btu per hour (or 100 square inches, whichever is greater) of the total input rating of all gas utilization equipment in the space, shall be provided.

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In all cases where combustion air is from inside the home, the homeowner must be made aware of this and sign the Health and Safety Waiver before any air sealing or duct repair is completed.

(Note: If this method is used, special attention must be given to zonal and draft pressures. In buildings of unusually tight construction, combustion air shall be obtained from outside.)

In homes that receive combustion air from outside the conditioned space, two openings are required. One shall be within 12 inches of the top and one within 12 inches of the bottom of the space containing the combustion equipment. The openings shall communicate directly, or by ducts, with the outdoors or spaces (crawl or attic) that communicate with the outdoors.

The following guidelines must be met when determining the minimum-free area for combustion air openings:

Direct openings to the outdoors shall provide one square inch per 4000 Btu per hour of the total input of all gas utilization equipment in the space.

Direct openings to the outdoors with vertical ducts shall provide one square inch per 4000 Btu per hour of the total input of all gas utilization equipment in the space.

Direct openings to the outdoors with horizontal ducts shall provide one square inch per 2000 Btu per hour of the total input of all gas utilization equipment in the space.

(NOTE: If the free area is not known because of louvers or screens, double the required opening size. IF THESE NFPA 54 NATIONAL FUEL GAS CODE REQUIREMENTS ON COMBUSTION AIR ARE NOT MET, THEN NO AIR SEALING (INCLUDING DUCT REPAIR) SHOULD BE DONE UNTIL THESE CONDITIONS ARE MET.)

3. Fire Hazards

Combustion appliances and their associated venting systems can also present potential fire hazards. Subgrantees that accept clients with wood stoves and fireplaces will have procedures to identify potentially dangerous creosote build-up in chimneys and wood stove flues.

It is the subgrantee's responsibility to ensure that any work on wood stoves and fireplaces conforms with applicable codes in jurisdictions where the work is being performed.

4. Existing Occupant Health Problems

Subgrantees will be sensitive to client health problems that might be exacerbated by weatherization activities.

Subgrantees will establish procedures to identify pre-existing client conditions (e.g., allergies) and address such problems when they are found. Those procedures should address the manner in which such problems will be identified and the steps to be taken to ensure that weatherization work will not worsen these problems.

5. Indoor Air Quality (IAQ)

a. Asbestos

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General asbestos removal is not approved as a DOE WAP health and safety weatherization cost

Major asbestos problems should be referred to the Arizona Department of Environmental Quality or to the Environmental Protection Agency (EPA).

Where local agencies work on large heating and distribution systems, including related piping, asbestos removal may be necessary. Removal is allowed to the extent that energy savings resulting from the measure will provide a cost-effective savings-to-investment ratio. This would normally be true with work done on large, multifamily heating systems. Where permitted by code or EPA regulations, less costly measures that fall short of asbestos removal, such as encapsulation, may be used. Removal and replacement of asbestos siding for purposes of wall cavity insulation is permissible, if allowed by state and local codes.

b. Radon

Where there is a previously identified radon problem, work that would exacerbate this problem should be limited. Radon abatement is not an allowable activity under the Weatherization program. However, those costs associated with taking precautions in a dwelling known to have radon problems are allowable weatherization expenditures. These costs are allowable, if an energy audit indicates that weatherization techniques would help in radon remediation. While subgrantees should establish sound radon-related strategies, major radon problems should be referred to the appropriate local environmental organization or agency for mitigation or abatement.

c. Formaldehyde and Volatile Organic Compounds (VOCs)

Formaldehyde vapors may be slowly released by some new carpets, wafer-board, plywood, etc. Some household cleaning agents also emit VOCs. Caution should be taken when selecting air tightness limits in dwellings with VOC problems.

6. Lead Paint

Lead Safe Weatherization (LSW) must be applied to all pre-1978 housing unless the house meets EPA's Final Rule Exemptions.

Exemptions

1. No Lead-Based Paint will be Disturbed. LSW must be applied to all pre-1978 housing unless there is existing evidence that the home has been certified as being lead-free or below the lead threshold limit (e.g., for paint containing lead below the regulated level, 1.0 mg/cm² or 0.5% by weight). One of the following methods must be used to determine the paint to be disturbed is not lead-based paint: -Written determination by certified lead inspector or risk assessor; *OR*

-Proper use of EPA-recognized test kit provided agencies (*documenting manufacturer and model of test kit used, description and location of components tested, and test kit results*)

Note: Beginning in 2010, tests must be performed by a Certified Renovator, per EPA final rule. Test kits are currently being evaluated but none have been approved to date - updates and approved kits will be posted at <http://www.epa.gov/lead/pubs/renovation.htm>

OR

-A State-approved lead-based paint test protocol (e.g., XRF scans verifying absence of lead paint).

2. Mobile Homes. Often, interiors of mobile homes were not painted but rather, paneling was applied to the

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surfaces. Therefore, pre-1978 mobile homes that were not painted by the manufacturer, occupant, landlord, or past owner of the unit before 1978, may be exempt from LSW. However, Weatherization Programs must verify the areas receiving weatherization services have never been painted or were painted for the first time after 1978. If this is not verifiable, then LSW protocols must be followed. Painted exterior surfaces on pre-1978 units should not be drilled, scraped, sanded, or receive any other work that disturbs the paint.

3. Exempt from training and work practice requirements if owner signs written statement that all apply:

- a. No pregnant women resides there; and
- b. Not a child-occupied facility ("occupied" includes being the child's primary residence or a home that is visited regularly by the same child, under age 6, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours)

4. Housing for the elderly or persons with disabilities (unless any one or more children under age 6 resides or is expected to reside in such housing for the elderly or persons with disabilities)

5. Any 0-bedroom dwelling

6. Minor Repair or Maintenance Activities: Activities that will disturb less than the following square feet of paint surfaces in 30 calendar days (counting all paint surface areas of a removed component):

- 6 sq ft per room for interior activities; or
- 20 sq ft for exterior activities

But this exemption does *NOT* apply to the following:

- Window replacement
- Demolition of painted surface areas

§ Using any of the following:

- o Open-flame burning or torching;
- o Machines to remove paint through high-speed operation without HEPA exhaust control; or
- o Operating a heat gun at temperatures at or above 1100 degrees Fahrenheit.

Testing for lead-based paint and lead-based paint residues

Testing for lead-based paint is not an allowable weatherization expense except, when it is related to the installation of energy-efficiency measures. These expenditures must be within the limits set by the State in its Weatherization Health and Safety Plan.

U.S. Department of Energy Minimum Standards for LSW

Safe Work Practices must be implemented to minimize exposure to hazards for residents and workers, while allowing Weatherization to occur in a cost-effective manner and to not hinder production. The effort required will be based on the hazard, work specifications, and customer health issues.

CHECK: Federal, state, and local regulations.

- OSHA has rules for worker safety.
- States and local communities may have rules for waste disposal.

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To meet the LSW minimum standards, crews and contractors **MUST** follow the general principles of working in a lead-safe manner. Best practices for working in a lead-safe manner are available in the benchmark LSW procedures and curriculum and should be reviewed and consistently enforced on LSW jobs.

A. Requirements

Client Protection and Notification

For occupied homes, the Weatherization staff, crew, or contractor must have an adult tenant or homeowner sign an acknowledgement after receiving the "Renovate Right" pamphlet. The pamphlet can also be sent by certified mail with receipt to be placed in the customer file.

In multi-unit housing, the agency must:

Provide written notice to each affected unit (notice must describe: general nature and locations of the planned renovation activities; the expected starting and ending dates; statement of how occupant can get pamphlet at no charge); or

Post informational signs (signs must describe general nature and locations of the renovation and the anticipated completion date) and post the EPA pamphlet "Renovate Right", (If pamphlet is not posted then agencies are required to provide information on how interested occupants can review a copy of the pamphlet or obtain a copy at no cost from the Weatherization Program)

Deliver pamphlet to owner/occupant. Obtain owner's and/or occupant's signature with acknowledgment or certificate of mailing. The owner/occupant must acknowledge receipt of the EPA pamphlet "Renovate Right", prior to start of renovation that contains the address of unit undergoing renovation, name and signature of owner or occupant, and the date of signature. It must be in same language as "contract for renovation" for an owner-occupied (or the same language as the lease for occupant of non-owner occupied) target housing.

If the Weatherization Program cannot get a signed acknowledgment (either the occupant is not home or refuses to sign the form), then the self-certification section of the form must be signed to prove delivery.

The acknowledgement form must be filed and remain with the client file for three years from date of signature. In addition to providing a copy of the pamphlet to owners and occupants, designated local agency staff (e.g., intake specialist, auditor, crew chief) must discuss the hazards associated with lead-based paint and lead dust, and describe how they will conduct LSW in the home.

Weatherization Worker Protection

LSW includes these procedures and safety precautions:

- Wear personal protective gear specifically suited for the particular LSW measure. Use the National Institute for Occupational Safety and Health (NIOSH) approved respirators (at least ½ face) with HEPA filters.
- Use disposable overalls (with hood or a disposable painter's cap), gloves (cloth, plastic, or rubber as appropriate), goggles, and disposable shoe/boot covers.
- Keep dust to a minimum and properly contain dust and paint chips to the work area.
- Clean up area during and after work.
- During Weatherization, wash your hands and face frequently, particularly when leaving the work area and especially before leaving the area for the purpose of eating, drinking, or smoking.
- Before leaving a confined work area, remove your protective clothing and protective shoe/boot covers to avoid

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exposing others.

Before leaving a confined work area, and before returning tools and equipment to vehicles, clean all tools to avoid exposing others and creating a lead-hazard to the next Weatherization job.

Get annual medical exams to check blood lead levels. Do non-lead-related work if your blood lead level gets too high.

Inform your employer if you develop signs of lead poisoning.

B. General LSW Work Practice Standards

Crews and contractors must take steps to protect occupants from lead-based paint hazards while work is in-progress using appropriate containment strategies.

Occupants, especially young children or pregnant women, may not enter the work site. Occupants are allowed to return only after the work is done and the home has passed a visual inspection.

Occupants' belongings must be protected from lead contamination. This can be done by removing them from the work area or covering them in protective bags and sealing it to prevent dust from getting on the items.

The work site must be set up to prevent the spread of leaded dust and debris.

Warning signs must be posted at entrances to the worksite when occupants are present; at the main and secondary entrances to the building; and at exterior work sites. The signs must be readable from 20 feet from the edge of the worksite. Signs should be in the occupants' primary language, when practical.

The work area must be contained. If containment cannot be achieved with occupants in the unit (e.g., work will take several days and involves the kitchen, bathrooms, or bedrooms that cannot be sealed off from use), occupants must move out of the unit or the work must be deferred until containment can be achieved.

Ensure containment does not interfere with occupant and worker egress in an emergency.

Prohibited Work Activities

NEVER - use reusable cloth or fabric, such as a painter's drop cloth, as protective containment sheeting. Polyethylene, and in some cases, when working on the exterior garden fabric are the only acceptable protective containment sheeting and must never be reused.

NEVER - use brooms and shop vacuums for cleanup. Wet cleaning and HEPA vacuums are the only acceptable methods for cleanup.

NEVER - use a conventional shop vacuum with HEPA filters - only HEPA-designed vacuums are acceptable for LSW.

NEVER - turn leaded paint into leaded dust by dry scraping or sanding (unless needed around electrical outlets) or grinding, abrasive blasting or planing.

NEVER - use an open-flame torch or heat gun (above 1100°F) to remove paint or window glazing. Open flame/high heat methods to remove paint create fumes that are dangerous for workers to breathe. Small lead particles created by burning and heating also settle on surrounding surfaces and are very hard to clean up.

NEVER - allow residents and pets access to the work area while work is underway.

NEVER - open windows and doors allowing lead dust to float into other parts of the building or outside.

NEVER - allow furniture and other objects to remain in the Weatherization work area while work is being done unless they are covered and sealed in polyethylene sheeting or bags.

C. Containment

Containment is anything that stops any dust or debris from spreading beyond the work area to non-work areas. The

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level of containment must be determined by the auditor/inspector or supervisor before work is assigned to a crew or contractor To comply with EPA's LRRPP Rule requirements, a **Certified Renovator will be required at the jobsite to assess and set up the containment site.**

Every home and every specific Weatherization measure is unique; therefore the level of containment required will be based on the hazards present, the age of the home, the scope of work activities, and any customer health issues. Although Weatherization jobs require individual assessments, LSW work generally falls into two levels of containment and the related standards are outlined below.

Level 1 Containment

Level 1 containment is required in pre-1978 homes when *less than* 6 ft² of interior painted surface per room or 20 ft² of exterior painted surface will be disturbed.

Level 1 containment consists of methods that prevent dust generation and contains all debris generated during the work process. The containment establishes the work area which must be kept secure.

Measures that *may* fall within this guideline include:

- Installing or replacing a thermostat
- Drilling and patching test holes
- Replacing HEPA filters and cleaning HEPA vacuums
- Changing Furnace Filter
- Removing caulk or window putty (interior)
- Removing caulk or window putty (exterior)
- Removing weather-stripping

Level 2 Containment

Level 2 containment is required when Weatherization activities will disturb *more than* 6 ft² of interior surface per room or 20 ft² of exterior surfaces in homes built prior to 1978. Level 2 containment consists of methods that define a work area that will not allow any dust or debris from the work area to spread. Level 2 containment requires covering all horizontal surfaces, constructing barrier walls, sealing doorways, covering HVAC registers with approved materials, and closing windows to prevent the spread of dust and debris.

Measures requiring level 2 containment *may* include:

III.5 Rental Procedures

Rental policy

Prior to all Weatherization of rental units, written permission must be obtained from the owner of the rental unit or the owner's authorized agent.

No undo or excessive enhancement shall occur of the dwelling unit.

The owner of the rental property or the owner's agent shall agree in writing not to raise the rental charge of said dwelling for a minimum period of one year from the date of completion of Weatherization services as a consequence of the Weatherization investment.

DOE funds may be used to weatherize the entire building containing multiple dwelling units only if the residences occupied by applicants represent at least 66% of the total units within the building (more than 4 apartments per

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building). With prior approval from the Energy office, as few as 50 percent of the units in large multi-family buildings would have to be certified as eligible before Weatherization services can be offered. This exception would apply only to those large multi-family buildings where an investment of WAP funds would result in significant energy-efficiency improvement because of the upgrades to equipment, energy systems, common space, or the building shell.

Weatherization has implemented an aggressive program to increase the number of multi-family housing units completed. The Energy Office has formed a partnership with HUD and the Arizona Department of Housing to develop projects with local Housing Authorities and privately owned Section 8 Housing properties.

III.6 Program Management

III.6.1 Overview

The Arizona Weatherization Program is located within the Arizona Department of Commerce - Energy Office, Building Science and Efficiency Section.

III.6.2 Administrative Expenditure Limits

The Arizona Department of Commerce - Energy Office will retain the allowable 5% administrative funds. Arizona will also request to allow its 10 subgrantees to use 10% of their PY 2009 funds for administration for funding under \$349,999 and 5% for funding over \$350,000.

III.6.3 Monitoring Approach

Monitoring

All agencies will receive comprehensive fiscal and field monitoring

Fiscal Monitoring

On-site fiscal monitoring of all subgrantees will be done annually and will include, at a minimum, review of policy manuals, records and documentation for the following areas: financial records including receipts and disbursements; time and attendance records for individual employees to support salaries and wages paid; purchasing and bidding practices; vendor payments; contractor selection process; client files; compliance with agency policy on production and expenditures; inventory records for materials, tools, equipment and vehicles; and insurance policies.

As part of desk-top fiscal monitoring procedures, subgrantees are required to submit monthly financial reports for review with each payment request. Expenses for unit jobs completed are reviewed on the website database.

Subgrantees are required to submit Single Act Audit reports annually to the Energy Office for review.

Field Monitoring

During ramp up, agencies will be monitored at a minimum of once per month.

The basic function of the monitoring staff is to be regularly accessible to each subgrantee to ensure regulatory compliance and to provide training and technical assistance. These individuals must be prepared to engage in

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problem solving at every level of the agency, promote an understanding of the goals of the program, and develop strategies to overcome various issues and problem areas.

AZ WAP has expanded its monitoring goals from inspection of a set percentage of jobs to verifying work completed as reported. This is to assist local agencies to improve the quality of work completed. Based on previous visits and monthly reviews of technical reports, AZ WAP monitoring staff will assist local agencies with difficult areas. Assistance in field monitoring may include improving diagnostics techniques, refining how measures are completed and making better decisions by field technicians. Follow-up monitoring will be completed to verify that solutions to issues have been incorporated into the work completed by the agencies on an on-going basis.

AZ WAP reviews 100% of the technical reports submitted to our office. These reports provide information on the base line condition of the home, diagnostics and work completed and the cost associated with specific measures. This information is reviewed to determine compliance with program requirements and provide information on the cost effectiveness of measures installed. This review is also used to assist in determining areas where an agency may need improvement. These efforts, combined with the training and competence programs, have a goal of insuring that our program is providing our clients with a high return on our investment while maintaining or improving their health and safety.

At Risk Agencies

Agencies may be determined to be at risk for the following reasons:

- Production is low relative to funding
- The agency routinely is not in compliance with program requirements
- The agency is not in compliance with the health and safety plan
- The agency files are incomplete

III.6.4 Training and Technical Assistance Approach

The primary goal of Arizona's T&TA is to provide the Weatherization field personnel with the ability to apply a decision-making process which allows them to take a "common sense" approach for each house. To achieve this, Arizona has embarked on a three-part plan that utilizes Formalized Training, Job Site Training and Job Competence.

Formalized Training

AZ WAP has implemented a formalized training program that utilized the Building Performance Institute (BPI) certification process. At this point BPI certification is not required. Our goal is to have a minimum of one BPI certified technician on each crew. BPI certification for production and quality control personnel is also highly recommended.

This training is being delivered through the Southwest Building Science Training Center (SBSTC), located at the Foundation for Senior Living (FSL) Weatherization Programs office/warehouse facilities in Phoenix. The SBSTC

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consists of a classroom, combustion safety lab, mobile home diagnostic laboratory and "hands-on" work stations.

Training courses include: Basic of Energy; Applied Building Science; Pressure Diagnostic; Thermal Performance/IR Thermography; Advanced Pressure Diagnostics; Health and Safety; Combustion Appliance Diagnostic; Moisture/Mold Issues and REM/Design. Courses offered will continue to grow as the capabilities of the SBSTC are expanded.

For new technicians the SBSTC is offering a Weatherization Boot Camp. The Boot Camp consists of a five-day training covering energy basics, pressure diagnostic, health and safety and hands on diagnostic and repair in a laboratory setting

A "stand-alone" Lead Training area is being developed in partnership with the City of Phoenix and the EPA-certified lead trainer that is utilized for their HUD programs

SBSTC has hired a full-time training coordinator. This position will head up our expansion effort, coordinate training classes and provide day-to-day training. FSL receives funding from this grant through a contract with the Energy Office for personnel, operations, trainings and expansion efforts at the SBSTC.

The SBSTC expansion will include:

- Doubling of the classroom space

- Expansion of hands on work stations

- Expanded classes in HVAC and renewables

- Development of a single-family home diagnostics laboratory

- Renewable energy work stations

- Introduction of training curriculum resulting from the DOE House Characterization project presently under way in Arizona (curriculum being develop by Advanced Energy)

FSL is an affiliate member with the Building Performance Institute, Inc.

FSL, with Energy Office support, is the Arizona sponsor of the nationally recognized Home Performance with Energy Star program. U.S. Environmental Protection Agency and the U.S. Department of Energy established the Home Performance with Energy Star (HPwES) program to promote and improve whole house energy performance in the existing housing market. Our goal will be to recruit as many of local agencies as possible into this program and help them promote the Energy Star program in their community.

The State will also work with and assist local agencies to maximize state participation at the Weatherization National Conference and the Energy Out West Conference.

For details on SBCTC and courses: <http://www.azhomeperformance.com/>

Job Site Training

As part of site monitoring, Energy Office staff will provide training to technicians on areas that are found, through monitoring, to be in need of improvement. The goal of this training is to provide hands-on assistance on specific techniques and measures where improvement is possible.

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Job Competence

Our long-term goal is to utilize the BPI process to expand the number of BPI certified technicians with a goal of having all technicians certified. Utilizing the BPI certification process will continue to measure the knowledge, skills and competency of individual technicians

The Energy Office is participating in BPI's Technical Committee. This is a group of experts representing diverse interests from the building performance industry who volunteer to support consensus-based technical development efforts. Our goal is to provide input to BPI on the needs and requirements of Arizona's Weatherization Program, understanding Arizona's diverse climates and housing variables.

III.6.5 Energy Crisis Plan

NA